

**Report of the 2nd Meeting of the
Informal Group on Electric Vehicles – Environment**

Location: Baltimore Convention Center, Baltimore, Maryland
Date: 9:00AM to 5:30PM, Sept. 13th and 9:00AM to 5:30PM, Sept. 14th, 2012
Chair: Michael Olechiw (United States)

Summary:

The 2nd Meeting of the Informal Working Group (IWG) on Electric Vehicles and the Environment (EVE) was held in Baltimore, Maryland on September 13 – 14, 2012, following the Environmental Friendly Vehicles (EFV) Conference. There were approximately 40 participants, representing government, vehicle manufacturers, and non-governmental organizations from around the world.

The meeting was very successful and made significant headway on working group objectives outlined in the EVE IWG Terms of Reference (TOR). Information was shared on related GRPE IWGs, selected EV national frameworks (US, China, Japan, Korea, Canada), and EV-related technical issues from industry, trade and non-governmental organizations (NGO) stakeholders. The EVE IWG TOR document was reviewed and accepted by participants. Discussion of the framework for a reference guide of EV regulatory activities was initiated and potential areas for future research were discussed. A timeline for future EVE IWG meetings was established and potential meeting locations were proposed.

1. Welcome, Introductions and Agenda

Michael Olechiw, from the US EPA, Chair of the informal working group, welcomed and led introductions of the participants and leadership team:

Chair: Michael Olechiw, United States
Co-Chairs: Chen Chunmei, China and Kazuyuki Narusawa, Japan
Secretary: Stéphane Couroux, Canada

There were approximately 40 participants, representing government, vehicle manufacturers, and non-governmental organizations from around the world.

A brief review of the goals of the EVE group and 2nd Meeting was presented by the Chair. The agenda for the meeting was also presented (document EVE-02-05e).

2. Review of EVE IWG #1 Meeting Report

The Secretary reviewed document EVE-01-04e covering agenda item 2.

It was noted by the Chair that the action reported under item 3 in the report, that the expert from the European Commission submit a list of items relating to standardization that could be considered by the informal working group, was not completed.

No comments or questions were raised.

Action: The Secretary proposed follow up with European Commission representative.

3. Overview and Acceptance of EVE Terms of Reference (TOR)

The Chair reviewed document EVE-02-04e covering agenda item 3 (updated TOR, doc EVE-02-23).

A number of comments were made concerning the wording of the three objectives listed in the Introduction, TOR item 1. The definition of “regulatory requirements” and whether this term is inclusive of standards was discussed and the addition of “identifying gaps” into the objectives was requested by a number of participants. The text was changed accordingly for regulatory requirements. For gaps, it was agreed that the last sentence of the first paragraph under Objectives sufficiently addressed this objective. “Fuel cells” was removed from the list of research areas because it was decided that the working group on fuel cells would cover this area.

In the TOR item 2, Objectives, the definition of “all types of road vehicles” was discussed as to what types of vehicles should be listed, if any at all. The text was changed by removing the types of vehicles in order to maintain flexibility. The inclusion of “cold start” in the potential considerations regarding the environmental aspects of EVs and whether it was a performance or environmental issue was discussed by the group, who decided to leave it as presented in the text.

In the TOR item 3.1, issue b, “Understand and document”, ‘document’ was interpreted by the group as a summary report to be presented to WP.29.

In the TOR item 4, Principle c, a change in procedure was noted where the EVE IWG is no longer required to submit documents to the UNECE for posting on the website as it is done directly by the Chair or Secretary. This text was revised accordingly.

TOR item 5, Timeline, was reviewed by the Chair with the group. The member reporting to the AC.3 was proposed to be the GRPE chair, but not decided. It was agreed that the mandate of the EVE IWG goes until the November session of the AC.3 in 2014.

A member requested the inclusion of a list of acronyms in the TOR and other documents (i.e. agenda), and it was agreed that the TOR would be adjusted by the Secretary to include expanded forms of acronyms.

Text was adjusted according to general agreement on the comments above and the adjusted TOR was presented and accepted on Sept.14 (updated doc EVE-02-23).

4. Presentations by Chairs of Related IWG (Agenda item 4 and 5)

Mr. Öhlund presented on the WLTP (EVE-02-12e) and HDH (EVE-02-06e, on behalf of Chair Petter Asman), Mr. Nguyen presented on the EVS (EVE-02-18e), the Chair and Jeff Alson (U.S. EPA) gave a brief overview of the EFV Conference which preceded the EVE IWG meeting, and Mr. Albus presented on the VPSD (EVE-02-09e).

A number of interesting discussion points arose during the presentations, including:

- The EV Subgroup of the WLTP is active in developing a test cycle, but specifics of this cycle (i.e. if the EV will be run in all four phases) are not decided yet.

- Data for EV driving behaviour is currently lacking. It was noted that this test cycle will likely not be 'locked' for 10 years once established, to allow for the addition of updated EV information once collected.
- Whether the results and/or information collected in EVE IWG research areas, i.e. EV test cycle, aim to benefit industry and consumers, or inform regulation.
- The development of hybrid vehicle test cycles and procedures and the differences from conventional vehicle test cycles.
- Potential areas of collaboration between the EVS and EVE IWGs, which are thought to exist, but are currently unclear.
- Evolving EV technology and the development of necessary definitions and a frame-system.

The EFV conference was deemed successful, with over 200 participants from around the world representing government, industry, and NGOs. The GRPE Chair informed the group that the EFV IWG is independent from the conference that preceded the EVE meeting, and its activities were frozen one year ago. They will develop a conclusion report, which could be used to inform the EVE IWG, but otherwise interaction will be minimal.

5. Presentations of National Frameworks (Agenda item 6 and 7)

Mr. Alson presented on behalf of the U.S.A. and California (EVE-02-19e), Ms. Chen on behalf of China (EVE-02-16e), Mr. Horie on behalf of Japan (EVE-02-17e), Mr. Choi on behalf of Korea (EVE-02-15e), and Mr. Couroux on behalf of Canada (EVE-02-13e).

Highlights of interesting discussion points following the presentations:

- Canada's alignment with the USA on light and heavy duty vehicle GHG emission standards.
- EV penetration under the US CAFE/GHG LDV rule for 2025, estimated to be approximately 3%.
- EV labelling.

6. Presentations from Industry, Trade Organization or NGO's regarding EV vision and technical issues (Agenda item 8 and 9)

The first session of presentations (Agenda item 8) focused on communication protocols to promote robust grid-EV interoperability (Mr. Oliver, EVE-02-20e), calculating EV GHG emissions (Mr. Pike, EVE-02-10e), and Li-ion EV battery life cycle assessment results (Ms. Hart, EVE-02-14e).

Comments during question periods focused on:

- Whether or not communications protocol should have a place in the EVE IWG and who would be the originator of the protocol. A member noted that further information on communications protocol could be found in the ANSI roadmap: http://publicaa.ansi.org/sites/apdl/evsp/ANSI_EVSP_Roadmap_April_2012.pdf
- How to define energy efficiency of EVs, could consider range, energy consumption, and/or size of vehicle.
- In the LCA of a Li-ion EV battery, the most energy intensive step was identified to be raw material extraction, making recycling of batteries attractive.

The second session of presentations (Agenda item 9) continued the discussion on EV battery LCA, highlighting Li-ion battery recycling LCA (Ms. Gaines, EVE-02-08e), EV battery recycling

best practices (Ms. Chapell, EVE-02-07e), and California EV Infrastructure policies and status (Mr. Pike, EVE-02-11e).

Comments raised by members during the question period included:

- The current challenges related to EV battery recycling are the low volumes due to low production, value of materials driving the recycling process and lack of an established collection network.
- Wireless charging and strategic location and level-selection of EV charging stations.

7. Proposal for an EV Reference Guide (Agenda item 10)

The Chair reviewed a document which outlined a proposed framework for the proposed Reference Guide, which is noted in the TOR as an outcome of the EVE IWG.

Discussion of the Guide framework focused on definitions of legislation/regulation/standards. The framework was divided into two parts, the first focusing on current EV regulations and the second on policy measures and tax incentives, etc. There was much discussion concerning the second part of the Guide and whether policy measures, etc. should be included, or if the document should focus on regulations only.

Action: Final agreement on the framework outline was postponed to be finalized in a third meeting (November conference call) or the fourth meeting. Comments are sought by October 15th, 2012.

8. Establishing First Working Priorities and Methodology (Agenda item 11)

Co-Chair Ms. Chen opened the session by sharing her views on measurement and evaluation of EV energy efficiency.

The Chair led a round table discussion on potential research topics for the EVE IWG to investigate, adjusting the list according to discussion (EVE-02-22e).

Highlights of the discussion include:

- Some members proposed to establish a list of research topics after having completed an analysis of gaps in regulations, which would be identified through analysis of the Reference Guide. The ANSI roadmap, noted above, was suggested as a starting point to identify regulatory gaps.
- There were discussions around the central objective of the EVE IWG and whether or not a Global Technical Regulation (GTR) would be created. The Chair clarified that this is not the mandate of the EVE IWG given by the WP.29. Many participants were of the view that the mandate of the EVE IWG should include GTR development.

Action: It was agreed to postpone the finalization of research topics until the framework for the reference guide is established. Options for assignment of research topics to members were discussed (China, energy measurement; Korea, traction battery power; US/Canada, ancillary power data, review of ANSI document), but not finalized.

9. Review of Draft Agenda for EVE IWG #3 and Timing, Venue of subsequent EVE IWG meetings (Agenda item 12 and 13)

The Chair presented a draft agenda for the EVE IWG meeting #4 to be held during the GRPE in January, which was adjusted according to discussion (document EVE-02-21e).

The following timeline and set of meetings were discussed:

- Input by October 15th on framework for Reference Guide and Research list.
- 3rd EVE IWG meeting via conference call in November, can finalize date for fifth meeting (held at same time as EVS meeting in Japan)
- 4th EVE IWG meeting at the 65th GRPE meeting in January 2013
- 5th EVE IWG meeting potentially to be held in Japan spring 2013 at the same time as the EVS meeting, between January and June GRPE meetings. However, considering the early timing of the EVS meeting (late February or early March), it may be preferable to have the 5th EVE IWG meeting at a later date (i.e. April 2013) and then not meet at the 66th GRPE meeting in June 2013, instead delaying the 6th EVE IWG meeting to a later date, or the November 2013 GRPE meeting.
- 7th EVE IWG meeting potentially held in China, while it was suggested to consider alternating meetings between Europe and North America.

10. Concluding remarks and closing (Agenda item 14)

The Chair closed the meeting and thanked participants for attending.